

REMARKS

In the Office Action, claims 15, 21, 23-27 and 29 were rejected under 35 U.S.C. 102(b) as being anticipated by Bryan et. al., U.S. Patent Publication No. 2002/0035400 ("Bryan"). Claims 15, 18 and 19 were rejected under 35 U.S.C. 102(e) as being anticipated by Kuras, U.S. Patent No. 7,169,181 ("Kuras"). Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bryan. Claims 30-32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bryan in view of Kuras.

In this response, claim 15 has been amended and claims 23 and 24 have been cancelled. Upon entry of the amendments, claims 15, 18, 19, 21, and 25-32 will be pending.

Reconsideration of the application in view of the amendments and following remarks is respectfully requested.

Rejection to claims 15, 21, 23-27 and 29 under 35 U.S.C. § 102(b)

Claims 15, 21, 23-27 and 29 were rejected under 35 U.S.C. 102(b) as being anticipated by Bryan.

Bryan describes a surgical implant that provides an artificial diarthrodesis-like joint, suitable for use in replacing any joint, and particularly useful for use as an intervertebral disc endoprosthesis.

Independent claim 15 has been amended to specify that the intermediate element has an annular closed oval shape and defines an annular central axis and has an ogival or oval cross-section crosswise to the annular axis at least in sections. Support for the changes to claim 15 is found in the original specification, for example, at paragraphs [0016], [0017], [0031], [0032], and Figs. 2 and 3, which show both the overall shape of the intermediate element 2, as well as the cross-section crosswise to the annular axis 7. See also claims 23 and 24, which have been cancelled.

Applicants respectfully submit that Bryan does not describe an intermediate element having an annular closed oval shape, nor does Bryan describe any section of the intermediate element

having an ogival or oval cross-section cross-wise to an annular axis. On the contrary, Bryan describes an annular central body 60 that the Examiner asserts is circular, and not oval. See Final Office Action at page 2. Furthermore, Bryan teaches that the cross-section of central body 60 is neither oval or ogival as recited in amended claim 15, but is instead a more complicated shape that includes convex upper and lower surfaces 94, 96, upper and lower shoulders 92, 90 including an indentation and a ledge extending around the circumference of central body 60. See, Bryan at paragraph [0086] and Figs. 6 and 7.

Furthermore, Applicants submit that Bryan fails to teach outer elements having a concave contour for receiving the intermediate element in a “form-fitting manner” that forms a recess. On the contrary, the radial stop 86 of Bryan, shown in Fig. 8 merely prevents slippage of the annular element in a lateral bending position. In the rest position shown in Fig. 6, for example, the intermediate layer is not in contact with stops 86 and 88 or 27 and 47. Thus, there is no recess formed by the contour of the outer layer and no joining of the intermediate element with the contour in a “form-fitting manner.” Therefore, the disk described in Bryan requires a certain minimum tilt angle to cause a displacement of the central body 60 before central body 60 can exert a substantial restoring force. Unlike Bryan, the Applicants’ invention provides a disk with an intermediate element whose restoring force is effective even at small tilt angles.

The oval shape of the intermediate element of claim 15 has the advantage that rotational movements are countered not only by frictional forces between the intermediate element and the outer elements, but also a shearing force that increases as the rotational angle increases. The oval or ogival cross-sectional form of the intermediate element further supports this function by providing a large force transfer surface between the intermediate element and the outer elements which also provides for an ever-increasing restoring force during a tilting movement.

Withdrawal of the rejections to claims 15, 21, 23-27 and 29 under 35 U.S.C. § 102(b) is respectfully requested.

Rejection to claims 15, 18 and 19 under 35 U.S.C. § 102(e)

Claims 15, 18 and 19 were rejected under 35 U.S.C. 102(e) as being anticipated by Kuras.

Kuras describes an artificial disc that includes an upper retaining member, a lower retaining member and a resilient core.

Independent claim 15 has been amended to include features from claims 23 and 24, which do not stand rejected over Kuras. Applicants respectfully submit that Kuras fails to describe an intermediate element having any section with an ogival or oval cross-section cross-wise to an annular axis. On the contrary, the cross-sectional shape of the resilient core more closely resembles a rectangle in that the inner and outer sides are vertical.

Withdrawal of the rejections to claims 15, 18 and 19 under 35 U.S.C. § 102(e) is respectfully requested.

Rejection to claim 28 under 35 U.S.C. § 103(a)

Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Bryan.

Applicants respectfully submit that Bryan fails to suggest at least the features of independent claim 15 for the reasons discussed above.

Accordingly, withdrawal of the rejection to claim 28 under 35 U.S.C. § 103(a) is respectfully requested.

Rejection to claims 30-32 under 35 U.S.C. § 103(a)

Claims 30-32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bryan in view of Kuras.

Applicants respectfully submit that the combination of Bryan and Kuras fails to suggest at least the features of independent claim 15 for the reasons discussed above.

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Withdrawal of the rejection to claims 30-32 under 35 U.S.C. § 103(a) is respectfully requested.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance.

No additional fees are believed to be due with the filing of this response. In the event of a fee discrepancy, please charge any fees due in connection with this filing to Deposit Account No. 04-0100 referencing Docket No. 20802/0205146-US0.

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Respectfully submitted,

By

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